ILLINOIS VALLEY COMMUNITY COLLEGE CAMPUS TREE CARE PLAN

I. The purposes of campus tree care plan are to:

a. Develop a Landscape Master Plan for the campus.
b. Protect and maintain the campus trees by managing the impact of development and construction on campus trees.
c. Provide protection and to make sure that all tree removals on campus are conducted with proper considerations and an adequate replacement program.

II. The responsibility of the Campus Tree Care Plan rests with Illinois Valley Community College's Facilities Department.

III. The Campus Tree Advisory Committee is composed of:

- Lauri Carey, Faculty Horticulture Department
- Ekana Nursery, Landscape Services
- ~~Gary Johnson~~Scott Curley, Director of Facilities
- ~~Megan Kelly,~~Current Student
- Mike Minnick, Groundskeeper
- Cheryl Roelfsema, Vice President for Business Services and Finance
- Scott Shearer, Arborist
- Tonica Nursery, Landscape Services

Roles of Representatives
The committee members will - serve for a period of one calendar year with a renewal option. Members shall appoint officials who will conduct the day-to-day business of the committee. Committee members are expected to actively participate and contribute in policy/guideline issues as well as research and information-gathering that would aid in the campus tree care plan.

ILLINOIS VALLEY COMMUNITY COLLEGE CARE POLICIES – TREE PLANTING

Plant Selection
Plant species used on the Illinois Valley Community College campus will include both native and exotic species that have been screened for adaptability to physical conditions and serviceability, and meeting planting needs based on site orientation, drainage, soil condition, use, etc.

- **Location -** If within 25 feet of overhead utility wires, - a tree that will not get taller than 30 feet will be chosen.

- **Cold Hardiness** - According to the 1990 USDA Plant Hardiness Zone Map, IVCC's grounds are in zone 5a. Trees will be selected with a hardiness number the same or less than 5a.
- **Soil Drainage** – -Soil drainage will be checked using the following procedure:
  - Dig a hole 18 inches deep and fill it with water.;
  - Let the water drain completely
  - Refill the hole with water, and time how long it takes for the water to drain. If the time is less than two hours, soil drainage is classified as -very fast. If the time is more than eighteen hours, soil drainage is classified as very slow.
- **Soil pH** – A pH meter will be used to test the soil. If a pH meter is not available, a soil test will be conducted.
- **Sun Exposure** – Sun exposure will be selected as applicable to the tree being planted (needs a little help)

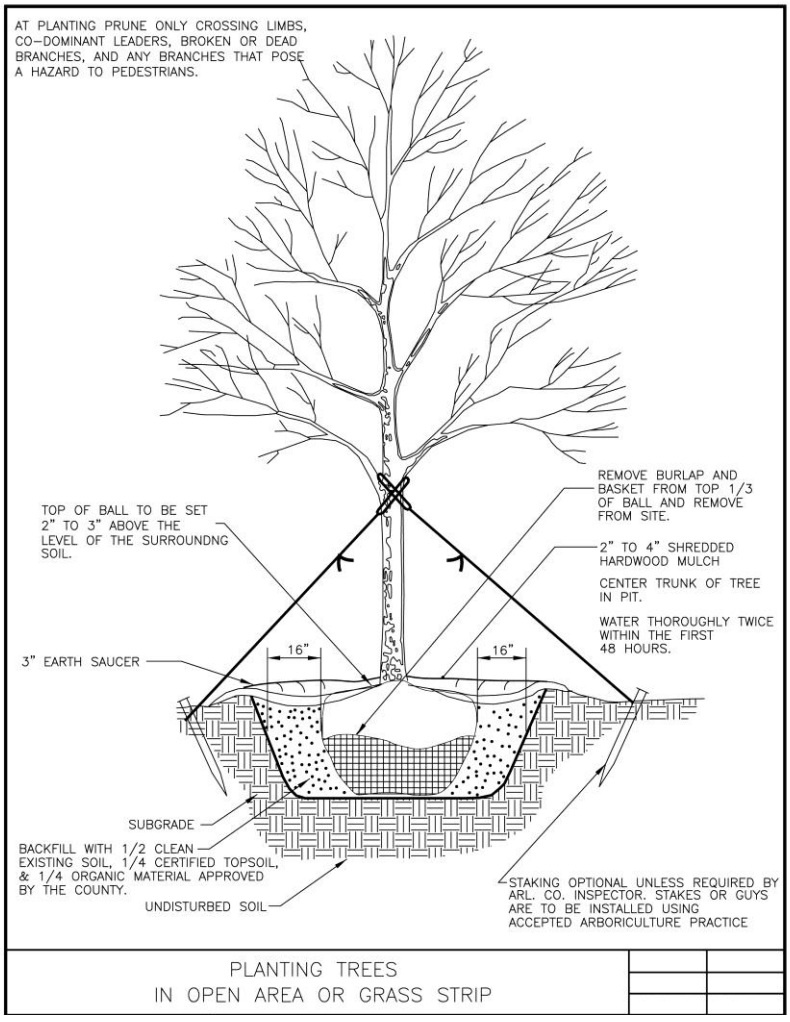
Where appropriate, the best tree shall be selected for a given site, which may or may not be a "native." Only trees of 2"–2 ½" minimum caliper and maximum of 4"–4 ½" caliper will be planted. Trees will be typical of their species and variety; have normal growth habits; well-developed branches; densely foliated, vigorous root systems; and be free from defects and injuries.

Site Preparation
The planting hole will be dug no deeper than the rootball when measured from the bottom of the root ball to the trunk flare. Holes deeper than the rootball, it often result in the settling of the plant above the trunk flare and structure roots -. The width of the hole will be at least 2 to 3 times the diameter of the root ball with sloping sides. The hole will be completely filled with water before putting the root ball in the hole.

Setting the Tree and Back Filling the Hole
Trees will be set with trunk flare 1"–2" above the existing grade. Once the tree is properly placed, all visible ropes and burlaps at the top one-third will be cut away. The top 8" - 16" of the wire basket will be removed once the root ball is stable in the planting hole; the planting hole will be backfilled with existing soil. Soil amendment additions, as recommended by the soil analysis, will be used, if the existing soil is of a poor quality. The backfill soil will be tamped firm enough to remove large air pockets, but not too firm as to remove all fine air spaces needed for a well-aerated soil for root development. The backfill will be completed by making sure that the trunk flare is completely exposed and mulch will be spread at 2–4" depth but not touching the trunk. The root ball and the planting area will be watered thoroughly twice during the first 48 hours of planting. Newly planted trees will receive adequate water weekly during the entire first growing season right up until dormancy in the fall, by irrigation or hand watering.

Mulching
Trees will be mulched with acceptable material 2" – 4" deep. Mulch will be kept six inches from the trunk of the tree.

Watering
During the first three years after planting, trees will be checked every other day in fast-draining soils and weekly in slow-draining soils. After the third year, trees will be checked weekly. Trees will be watered within the dripline, or for large trees, at the base and at the dripline.

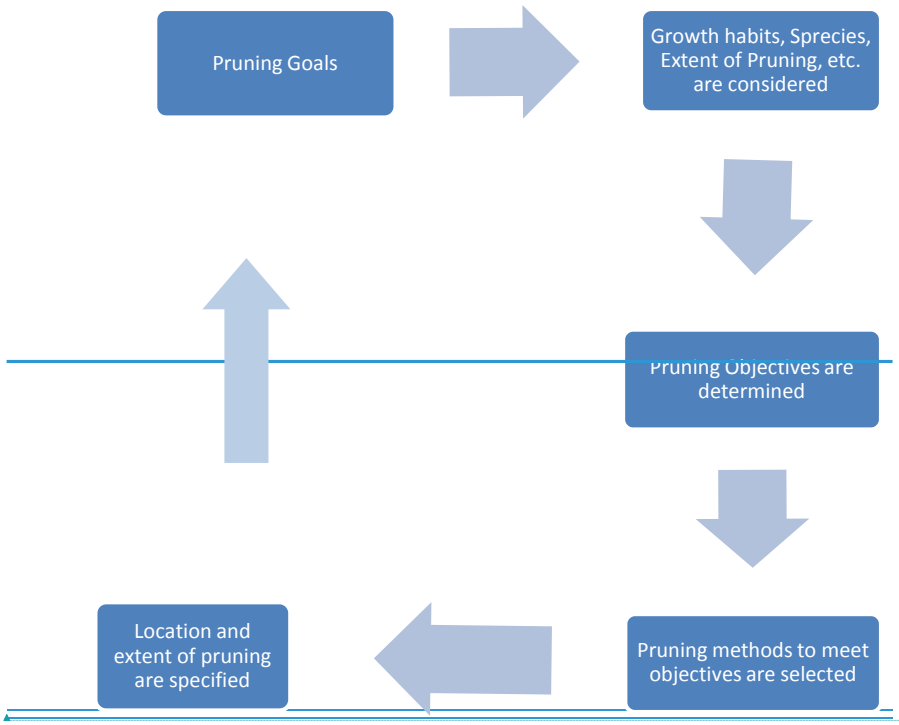


Transplanting

Desirable trees in a development area or other construction sites will be transplanted by staff if the tree caliper is between 2”–4” to an acceptable location and during the planting season (April to June or September to October). Transplanting trees of larger caliper shall be contracted out, using comparable tree spades.

Staking
Some trees will need to be staked to remain standing straight in their new planting site. If the root ball is unstable or the truck is bending, the tree will be staked using wide nylon, canvas straps, or nylon stockings wrapped around one side of the truck. The tree will not be tied tightly. If the root ball is unstable, 1-3 stakes attached low on the trunk will be used. If the truck is bending, one stake will be attached higher (at least six inches below the first set of branches). Stakes will be removed after 1-2 years.

Pruning



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Young trees will be pruned early to help the tree develop a strong, well-balanced crown. Pruning young trees will be done to ensure that:

- Branches are well-attached to the trunk
- There is one central trunk
- There is good spacing between branches
- There is enough clearing between the ground and the first branch.

Fertilizing
Fertilization will be performed in compliance with American National Standards Institute A300 standards.

- Soil and/or foliar nutrient analysis will be used to determine the need for fertilizer. Soil modification to improve nutrient uptake will be considered prior to fertilization.
- Slow-release fertilizers are the preferred type.
- The fertilization area will be defined prior to application. Consideration will be given to root accessibility, root location, fertilization objectives, and plant species.
- For most trees and shrubs, the fertilization area will be from near the trunk to near or beyond the dripline. Inaccessible surfaces will not be included in the rate calculation. Overlapping fertilization areas will only be calculated once.
- Fertilizer will be applied so that nutrients are available when roots are growing.
- Fertilizer will be uniformly distributed within the defined area of fertilization. Holes will be evenly spaced within the defined fertilization area. Foliar applications, injections, or implants will only be used when soil application of fertilizer is impractical or ineffective in achieving fertilization objectives. Fertilizer specified will be formulated for the application method.

Newly planted trees will not receive fertilization during the first growing season except in a situation where a soil test recommends its use. Trees in poor condition will receive deep root fertilization of 5–35–10 plus micro nutrients, with repeated application if necessary. Also, when necessary, 10–20–10 for evergreen trees and 25–10-10 for general application will be used. Routine tree fertilization is not recommended.

Preventive Maintenance Pruning
The grounds department systematically prunes trees annually through a preventive maintenance pruning program. Preventive maintenance pruning is conducted on an as needed basis at this time. All campus trees are periodically surveyed and rated based on their pruning needs to determine scheduling priorities. An arborist will be consulted as needed for special pruning requirements.

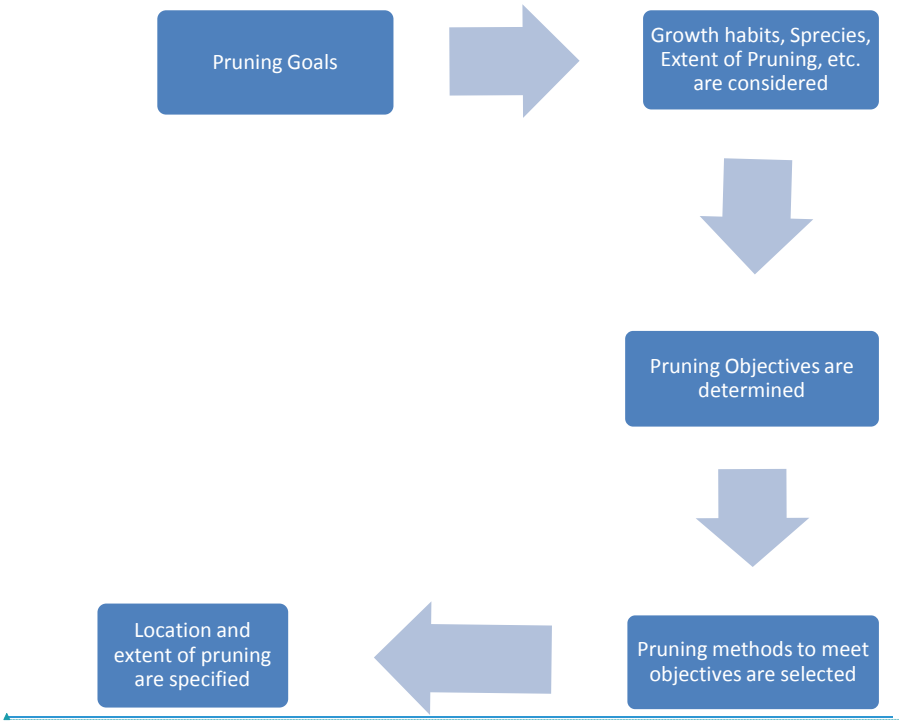
Pruning
Pruning of trees will be done to meet the following objectives:

- Improve the structural strength and reduce failure potential (including dead branch removal)
- Prevent or mitigate a pest problem
- Improve aesthetic characteristics
- Provide clearance for pedestrians, vehicles, and structures
- Improve safety and security for employees, students, and visitors
- Repair structural damage from wind loading
- Reduce maintenance costs of young trees

A plan of work that clearly identifies the species, location, need for pruning, pruning objectives, pruning specifications, and the scope of pruning will be prepared prior to pruning. A separate plan will be prepared for each tree unless groups of trees of the same species have similar

pruning needs. If extensive pruning needs to be done, the pruning will be completed over a two- or three-year period. Less than 25 percent of the tree's live branches will be pruned at any one time.

Pruning will be done during winter months. This allows for easier visibility of branches, diseases cannot spread, and decreases the stress to the tree. Pruning will be avoided from early spring through early summer to decrease the risk of oak wilt.



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Service Requests
The grounds department annually inspects trees to determine the type of pruning to be performed. Routine inspections by staff provide most of our pruning needs.

Fallen Limb Removal
When limbs fall from trees on campus, the grounds department promptly cleans up the debris. Every attempt will be made to clean up dropped limbs within the same day, depending on the severity of the storm and the extent of the tree damage.

Hazard and Emergency Tree Removal
Storm response and recovery are generally accomplished in-house. In a crisis, the first priority is to remove tree debris that blocks campus thoroughfares, disrupts campus operations, or poses hazards to the campus community. Once these critical needs are addressed, a prioritized recovery plan is implemented during which unsalvageable trees are systematically removed and salvageable trees are pruned to restore their health and structure. As the tree planting budget permits, lost trees are strategically replaced to restore the structure and function of the campus forest in a reasonable time frame. During storm response and recovery, trees requiring specialized equipment not available in-house are addressed by an outside contractor.

When a tree removal request is made, the grounds department evaluates the tree in question and makes the determination for removal or not. If the tree is considered a hazardous tree, it is then scheduled for removal. All hazardous trees have two things in common, a significant defect and a potential target for falling on a building, car or pedestrian. Most tree removals are done by staff or contractor. Very large trees needing a crane are contracted out.

Stump Grinding
After trees are removed, the stumps are then scheduled for grinding, provided there is adequate access to the site. When the stump is ground out, the grindings are mixed with soil and spread out. The area is then reseeded with grass.

Managing for Catastrophic Events
In the event of severe weather conditions such as tornadoes or hurricanes, falling trees will be removed by staff or an outside tree removal company. Roads and streets shall be cleared first, then access to administration and buildings with critical function. In advance of severe weather conditions, all necessary equipment shall be checked for readiness and safety by staff.

- The Utility Company will be contacted if large branches or trees on the ground are near utility lines or if branches or trees are on utility lines.
- Branches that are broken but still hanging in the crown will be removed by an arborist.
- Branches that are coated with ice will be left alone until the ice is gone. At that time, safety of the branches will be checked.
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Protection and Preservation Policies and Procedures
Tree protection zones shall be established and maintained for all trees to be preserved in a construction site. A simple barrier for each tree or grouping to protect the trunk and root systems will be constructed. This reduces damage from heavy equipment and trucks. Wood, plastic or chain link 4' fencing is suitable. The barrier fence will be installed for every inch diameter of that tree's diameter breast height (DBH), provided that in no case shall the protection zone be less than a radius of 2.5 feet. No root raking shall be allowed within any tree protection zone at anytime during clearing, grading or construction of a project. No equipment or vehicle shall be parked or construction material stored, or substances poured or disposed of or placed within any tree protection zone at anytime during clearing or construction of a project. To the extent possible, all site work shall be planned and conducted in a manner that will minimize damage to protected trees from environmental changes such as altered site drainage or any other land disturbance within or immediately adjacent to the critical root zone of the tree.

New Building or Facilities Construction
Development activities shall be planned to the extent possible in order to preserve and protect trees on the Illinois Valley Community College campus. Any tree on the Illinois Valley Community College campus that must be removed to accommodate development~~, damage during storm events, disease and~~ or water/sewer repairs must be shown on the site plan and a method of compensation shall apply as in the following example:

a) A 1" diameter tree shall be compensated with an equivalent monetary value.
b) A 1" diameter tree shall cost no less than $175.00 (2008 cost)
c) The sum total of the diameter of replacement trees (inches) shall be multiplied by that year's actual cost of the tree market value.

Design Requirements
Design of a new development or reconstruction shall include a green space plan in the proposal. Such plans shall include a tree protection, tree establishment, and landscape plan.

Goals and Targets
Develop an integrated, ecologically based landscape and open space system that will help Illinois Valley Community College achieve its goal of environmental sustainability.

Tree Damage Assessment
All damaged trees on the Illinois Valley Community College campus shall be assessed by the grounds department to determine whether the tree should be removed, pruned, or receive treatment such as fertilization~~,~~ and/or insect/disease control.

Prohibited Practices
Under no condition shall a tree be planted on the Illinois Valley Community College campus without pre-approval from the office of the Vice President for Business Services and Finance, the Horticulture Faculty, and the Grounds Department.

Definitions
Caliper ─ The diameter or thickness of the main stem of a young tree or sapling as measured at six (6") inches above ground level. This measurement is used for nursery-grown trees having a diameter of four inches or less.

Canopy trees ─ A tree that will grow to a mature height of at least 40 feet with a spread of at least 30 feet.

Clearing ─ The removal of trees or other vegetation of two inches DBH or greater.

Critical Root Zone ─ The minimum area surrounding a tree that is considered essential to support the viability of the tree and is equal to a radius of one foot per inch of trunk diameter (DBH).

Development ─ The act, process or state of erecting buildings or structures, or making improvements to a parcel or tract of land.

Diameter, breast height (DBH) ─ The diameter or width of the main stem of a tree as measured 4.5 feet above the natural grade at its base. Whenever a branch, limb, defect or abnormal

swelling of the trunk occurs at this height, the DBH shall be measured at the nearest point above or below 4.5 feet at which a normal diameter occurs.

Green space ─ Any area retained as permeable unpaved ground and dedicated on the site plan to supporting vegetation.

Green space plan ─ A map and/or supporting documentation which describes for particular site where vegetation is to be retained or planted in compliance with these regulations. The green space plan shall include a tree establishment plan, or a tree protection plan, and a landscape plan.

Impervious surface ─ A solid base underlying a container that is nonporous, unable to absorb hazardous material, free or cracks or gaps and is sufficient to contain leaks, spills and accumulated precipitation until collected material is detected and removed.

Landscape plan ─ A map and supporting documentation which describes for a particular site where vegetation, is to be retained or provided in compliance with the requirements of this policy. The landscape plan shall include any required buffer elements.

Native tree ─ Any tree species which occurs naturally and is indigenous within the region.

Tree establishment plan ─ A map and supporting documentation which describes for a particular site where existing trees are to be planted in compliance with the requirements of these regulations, the types of trees and their corresponding trees for reforestations.

Tree protection plan ─ A map and supporting documentation which describes for a particular site where existing trees are to be retained in compliance with the requirements of the regulations, the types of trees and their corresponding tree for reforestations.
Tree protection zone ─ The area surrounding a preserved or planted tree that is essential to the tree's health and survival, and is protected within the guidelines of these regulations.

Communication Strategy
After the adoption of the Campus Tree Care Plan and Policies by the Advisory Committee and Illinois Valley Community College Administration approval, an article on Illinois Valley Community College participation in the Tree Campus USA shall be placed in the student's newspaper, "The IV Leader," and placed on the Illinois Valley Community College website. Additionally, a press release shall be made to the local media through the office of Community Relations.

DEDICATE ANNUAL EXPENDITURES FOR CAMPUS TREE PROGRAM

Staff and Equipment
Illinois Valley Community College has dedicated one full-time employee as well as student workers for the tree program. On average, Illinois Valley Community College spends $ 1,500 to purchase new trees per year. The following equipment is used in the maintenance and care of our campus trees:

John Deere Tractor	$9,900
Bobcat vehicle	13,500
Chainsaw	532
Water tank on trailer	2,950
Manlift	29,500
Rototillers	665
Subtotal (Equipment Invested)	$57,047
Equipment Maintenance/yr $	7,300
Grand total on equipment $	**$64,347**

Illinois Valley Community College Earth Day
The Illinois Valley Community College Earth Day held annually in April, accounts for over 50 students, faculty & staff volunteers. At 3 hours per volunteers x $18 equals $2,700 of volunteer labor per year. They participate in planting trees, shrubs, groundcover, flowers, spreading wood chips, pulling weeds, picking up trash, etc., on the Illinois Valley Community College campus.

Other associated costs of the campus tree management are:

Mulch	$2,050
Insecticides	1,500

Summary
Summary of the dollar value dedicated to the tree program by Illinois Valley Community College are:

Labor staff/yr	$25,000
Labor volunteer/yr	2,700
Tree purchase/yr	1,500
Materials/yr	3,550
Equipment investment	57,047
Equipment maintenance/yr	7,300
Staff training	150
TOTAL	**$97,247**

Illinois Valley Community College's student full time equivalent is 2,531. At $3/FTE the annual expenditure requirement is $7,593.Therefore, Illinois Valley Community College is well over the required amount of expenditures needed for Tree Campus USA.

References

ANSI A300 (Part 1)-2001 Pruning: Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (revision and redesignation of ANSI A300-1995, includes Supplements). American National Standards Institute, Washington, DC.

Best Management Practices: Tree Pruning. 2002. Gilman, E. and S. Lilly. International Society of Arboriculture. Champaign, Il.

Resources

American National Standards Institute
1819 L Street, NW Suite 600
Washington, DC 20036
(202)293-8020
http://www.ansi.org/